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INDIANA FARMER & GARDENER.

Indianapolis, Saturday, November 15, 1845.

Index.

Absence from home has prevented our making out an Index to this volume, in season for this number. We shall endeavor to send it with the next.

End of Volume I.

We issue the twenty-fourth and last number of the Indiana Farmer and Gardener for the year 1845. It was begun as an experiment, and it is enough to say that the result has induced us not only to continue it, but to put it in an entirely new dress.

Our thanks are due, and heartily rendered, to those gentlemen who have enriched and diversified the matter of this volume. And it may encourage them to further contributions to know, that their articles have been very generally copied by agricultural papers throughout the land, and by many newspapers. There is no proportion between the trouble of recording an experiment, or experience, or any natural phenomena, and the benefits which they confer. Such is the power and inter-connection of the press, that what is observed and written in the obscurest "clearing" of a frontier State, is read by the whole brotherhood of farmers in the Union. A crop on the Wabash, the experience of a prairie farmer, or the observations of a nurseryman in the central counties of Indiana, may instruct every State in the Union. Several cases are in point. Dr. Cornett's article on the canker worm has gone, probably, to every farmer who reads an agricultural paper in the United States. The observations of Mr. R. Ragan on the frost blight, have attracted universal attention; and the theory is favorably regarded in Massachusetts; has been adopted by Mr. Downing in his Fruit Manual; subscribed to by the Albany Cultivator, etc.

Many suppose that it is worth while to write nothing which does not amount to a theory, or an astonishing discovery. But our observation has shewn, that those articles are most quoted and read which respect the every day wants and operations of agricultural and rural life. It is not the magnitude, but practical fitness, of an article to home wants which gives it currency.

Our thanks are also due to the kindness shewn by our brethren of the agricultural press. We could not have wondered, if, among the rich contributions of the able writers of the east and the magazines of Europe, the efforts of a paper in an inland,

western town, in a remote State, had been permitted to rest in obscurity. We regard the contrary course as pleasing evidence of a disposition on the part of editors to select without regard to name or region, whatever has the semblance of utility.

The gentlemanly editors of our own State have contributed not a little to the success of our enterprise. By that pleasantest of all advertising, the quotation of our articles, and by commendatory and encouraging remarks, they have laid us under great obligations. It is only just that we should say, and it gives us a sincere pleasure to do it, that having, by exchanging with almost every paper in the State, become acquainted with the county, and State journals, we have a much higher opinion of the ability and courtesy of the corps editorial than we formerly had, when we saw only occasional extracts, dictated in times of high party excitement.

We have not performed all that we meant or wished. Our performances have fallen far short of the model which we proposed to ourselves. An artist and an artizan know the flaws in their own work better than any others can. But it may not be improper to allude to the fact that we are at liberty to devote to this work only the hours of relaxation, necessary to health, in an arduous profession whose duties every year increase. The beginning and end of an article have often been separated by long journeys, and almost every article containing matters of fact have been written long after every light in our village had been extinguished; or, (thanks to a good wife) long before they were lighted in the morning. And although we have double duty, we are not conscious of having withdrawn any time from our legitimate profession.

It may have seemed strange to some, that two callings so unlike should have been united. Abundant precedent might be plead, if we considered ourselves on trial. But neither to our own conscience, nor to other men's opinions have we been called to a defence. We should be loath to believe that any should regard a clergyman as inconsistently engaged while endeavoring to ennoble labor, to diffuse sound knowledge, or to enliven the fire-side by the sallies of mirthfulness, never meant to be malicious or unkind. I will add that a latent hope of doing something for the State in which I live, and in which I expect to die, has not been without its influence. If I dared express all I feel, or could embue others with half of that enthusiasm which might properly be expressed, I should not despair of seeing the day when there should exist, a large-minded, intelligent, settled, Public Spirit, leading the citizens of Indiana to devise without selfish limitation, and execute liberally, things which should put her by the side of Ohio, New York, and Massachusetts. As it is, we have a great State, of incomparable resources, with little capital, little reputation, a vast and accumulating public debt, distracted in council by almost equally balanced parties, more vigilant, (it has seemed to us,) of each other, than of schools, mechanic arts, agriculture, and the actual common-weal. There is no remedy in despair for any evil. But hope often gives spring to exertions which in the end conquer. Let us, then, live in hope.

Second Volume.

We shall send the first number of the second volume to all our old subscribers, and to many others, known to be interested in the advancement of agricultural or horticultural pursuits. We shall then open entirely new books and send *only to such as have sent in their names according to the terms.*

We have a font of new and very beautiful brevier letter, and shall be able to send forth our ensuing volume in a superior style of mechanical execution.

In our now finished volume, we have been scrupulously careful not to hold out any expectations which we were not morally certain of realizing.

We have avoided any thing which might seem like puffing; all magnifications of our list of subscribers; and all too sanguine and high colored representation of our prospects. We at first supposed that 500 subscribers would be all that we could expect. But after the issuing of the first number we were led to suppose that 1000 copies might be

circulated. We have closed the volume with about 700 paying subscribers, although the edition of a 1000 has been nearly exhausted by exchanges &c. We have not received ten subscribers from the exertions of special agents, almost our whole list being made up of voluntary subscribers. So that what we have gained may be regarded as stable. If it be considered that the Prairie Farmer, the Genesee Farmer, and the Albany Cultivator, from abroad, and the Western Cultivator at home, had the preocupancy of the field, our success will, with all not too sanguine minds, appear decisive. We now suppose, we hope not unreasonably, that we may raise our list, for the second year, to 2000. If it overruns this, we had rather be disapointed in that way, than by the reverse.

We shall prefer an exchange to all the papers in the State, and to such out of it as are now on our list.

Whatever fears might have been entertained by some, of our permanent establishment, we hope are dissipated. As a pledge of future fidelity and punctuality, we may be permitted to point to the fact that the twenty four numbers now completed, have been issued with almost exact punctuality; in a single instance only, we believe, varying a day from the appointed time.

Origin of Animal Organs.

In commenting upon a statement that the "material of silk and cochineal exist in the vegetables on which insects feed," the Indiana Cultivator says:

"From this doctrine we dissent—against it we enter our protest. It is a lame and ridiculous attempt to simplify the operations of Nature, and to bring her power within the narrow compass of a mere human artizan. Can we not afford to let nature operate in her own way, and reserve for our own use, the "labor-saving machinery of the nineteenth century?"

"If the '*material of silk* exists' in the *leaf* on which the silk-worm feeds, it must previously have existed in the *earth* from which that leaf is formed. There can be no appeal from this conclusion; because, no matter how many changes a given article may undergo, the material of the substance at last formed out of it, must have existed, *from the commencement of those changes.*—But, can folly be so rampant as to contend, that the material of silk exists in the ground on which we tread? can it be supposed, that the dye of the cochineal exists, in a latent form, in the earth? Are the fragrance and the color of the rose, contained in the earth in which it grows?

"The Epidendrium Ærium—an Asiatic plant of great splendor and fragrance—derives its nourishment from the atmosphere, and produces new leaves, branches and flowers, when suspended in the air. Pray, do the materials of the plant exist in the atmosphere?

"The humming-bird feeds on the juices of our flowers. Are the material of its bones, muscles, nerves, feathers, blood, nails, the humors of its eye, and the colors of its plumage, all contained in the saccharine juice of a rose or a honeysuckle?

"The musk ox secretes the substance which has given its name to that animal; while the pole cat prepares and emits a fluid of a most nauseating and revolting character. Pray, do these secretions—or their material—exist in the food of these animals?

"Folly can hardly be so rampant, as to answer those questions affirmatively. And yet, the doctrine contained in the extract quoted above, is, in no degree more rational.

"The truth of the matter is, that nature has given to every plant and animal, the power of secreting or preparing from its food, every substance that enters into its own composition. If its *natural food* be given to it, this function of secretion is regularly and constantly performed; no matter how dissimilar that food may be, from the secretions prepared from it. Thus, it is not necessary to mix *lime* with the food of domestic fowls, in order to enable them to prepare their egg-shells. This substance is prepared by the digestive and assimilating powers of the fowl, from its natural food."

REMARKS UPON THE ABOVE.

We extract these very peremptory remarks, with some surprise, from the *Indiana Cultivator*. There is not a point in physiology on which there is a more general consent of enlightened philosophers than the very one which our friend stultifies so "rampantly." Had the reasonings of eminent chemists been shewn to be unsound; had their numerous analyses and experiments been convicted of mistake; had facts and experiments on the other side been submitted, we should render thanks to the editor for a useful contribution to science. But so far as we understand him, he has nothing to

shew against, not a theory, but a series of analyses, but *incredulity*!

We extract, on this very subject, the remarks of Professor James F. W. Johnston, an English agricultural chemist of first authority:

"Whence does the body derive all the substances of which its several parts consist?

"The answer to this question appears at first sight to be easy. They must be obtained from the food. But when the enquiry is further considered, a reply to it is not so readily given.

"It is true, indeed, that the organic part of the food contains carbon, hydrogen, oxygen, and nitrogen — the elements of which the organic parts of the body are composed. The *in*-organic matter also which exists in the food contains the lime, the magnesia, the potash, the soda, the sulphur, the phosphorus, and the iron, which exist in the inorganic parts of the animal body — so that the question seems already resolved. The body obtains from the food all the elements of which it consists, and if these be not present in the food, the body of the animal cannot be properly built up and supported.

"But to the chemist and physiologist the more important part of the question still remains. *In what state do these elements enter into the body?* Are the substances of which the food consists decomposed after they are taken into the stomach? Are their parts first torn asunder, and then re-united in a different way, so as to form the chemical compounds of which the muscles, bones, and blood consist? Are the vital powers bound to labour, as it were, for the existence and support of the body? Do they compound or build up out of their ultimate elements the various substances of which the body is composed—or do they obtain these substances ready prepared from the vegetable food on which animals, in general, are fed? The answer which recent chemical researches give to this second question forms one of the most beautiful contributions which have been made to animal physiology in our time.

1°. We have seen that the flour of wheat and of our other cultivated grains consists in part of gluten, of albumen, or of casein. These substances all contain nitrogen, and are identical in constitution with each other, and with the fibrin of which the muscles of animals chiefly consist.* The substance of *the muscles exists ready formed, therefore, in the food which the animal eats.* The labor of the stomach is in consequence restricted to that of merely selecting these substances from the food and despatching them to the several parts of the body, where they are required. The plants compounds and prepares the materials of the muscles—the stomach only picks out the bricks, as it were, from the other building materials, and sends them forward to be placed where they happened to be wanted.

2°. Again, we have seen that in all our crops, so far as they have been examined, there exists a sensible proportion of fatty or oily matter more or less analogous to the several kinds of fat which exist in the bodies of animals. In regard to this portion, therefore, of the body, the vegetable performs also the larger part of the labor. It builds up fatty substances out of their elements — carbon, hydrogen, and nitrogen. These substances the stomach extracts from the food, and the body appropriates them, after they have been more or less slightly changed, in order to adapt them to their several purposes. There may possibly be other sources of fat, as we shall hereafter see, but the simplest, the most natural—and probably, where a sufficient supply exists, the only one had recourse to by the healthy animal —is the fat which is found, ready formed, in the vegetable food it eats.

3° Further, the bones, the muscles, and the blood, contain phosphate of lime, phosphate of magnesia, common salt, and other saline compounds. These same compounds exist, ready formed, in the vegetable food, associated generally with the gluten, the albumen, or the casein, it contains. The materials of the harder parts of the body, therefore—(the phosphates) as well as the inorganic saline substances which are found in the blood, and in the other fluids of the body —are all formed in or by the plant, or are by it extracted from the soil and incorporated with the food on which the animal is to live.

"Not only, therefore, do the mere elements of which the parts of the bodies of animals are formed, exist in the food—but they occur in it, put together and combined, nearly in the state in which they are wanted, in order to form the several solids and fluids of the body. The plant, in short, is the compounder of the raw materials of living bodies. The animal uses up these raw materials — cutting them into shape when necessary, and fitting them to the several

* The chemical reader, who is aware of the exact state of our knowledge upon this subject, will perceive that I speak here of the identity of these substances only in so far as the proportions of carbon, hydrogen, oxygen, and nitrogen are concerned. It is unnecessary to allude in this place to the different proportions of sulphur and phosphorus they are known to contain—as the more popular nature of this work will not permit me to discuss the refined, though singularly beautiful, physiological questions with which these differences are connected.

places into which they are intended to be built.

"This is a very simple, and yet a very beautiful view of one of the many forms of chemical connection which exist between the processes and purposes of animal and vegetable life. Nature seems to divide the burden of building up living bodies between the vegetable and the animal kingdoms—the lower appearing to exist and to labor only for the good of the higher race of beings."

Our friend says: "If the material of silk exists" in the leaf on which the silk-worm feeds, it must previously have existed in the *earth* from which that leaf is formed," again citing the case of the Epidendrium Ærium, he says: "Pray do the materials of the plant exist in the atmosphere?" He has forgotten that plants do not draw more than from *two* to *ten* per cent. of their matter from the earth at all! Dr. Lee states that a potato has but "*one per cent.* of mineral earthly matter in its composition." The *average* of cultivated plants contain but *three* per cent. *Ninety seven* per cent. of the constituents of plants are derived from the air!—We add a portion of an article from the North British Review:

1. In the dry soil, the organic part forms from two to ten per cent. of the whole weight. It consists, as we have already stated, of the decaying fragments of animals and vegetables; and among the other uses which it serves, is that of supplying the plant with a portion of those substances out of which its organic part is built up. Of the way in which it performs this function, we do not at present speak.

2. In the dry plant, the organic part forms from 90 to 98 per cent. of the whole. As regards its quantity, therefore, it is of much more importance than the inorganic part; at all events, it is necessary to consider its nature, and the purposes it is intended to serve.

a. If we take a quantity of saw dust, or chopped straw, or chaff, or bran, and boil it first in water, and afterwards successively in vinegar, spirit of wine, and ether, each of these liquids will dissolve something out of it; but by far the largest portion will remain undissolved. This white insoluble matter forms the substance of the cells and vessels of plants, and is known by the name of *woody fibre*. It is of great importance to the plant, and forms a large portion of its substance; but except in its very young state, is, for the most part, indigestible in the stomach of animals; and after being eaten, is principally rejected again in the excretions.

b. If wheaten flour be made into a dough, and if this dough be washed upon a sieve under a small stream of water, as long as the water passes through the milky, a grey matter resembling bird lime, will remain on the sieve, while the milky water will gradually deposit a white powder. This white powder is *starch;* the grey substance left in the sieve is *gluten*.

c. If the clear liquor from which the starch has subsided be brought to a boil on the fire, which curdy flocks will separate and fall to the bottom. From its close resemblance to boiled white of egg—the albumen of chemists—this white matter has been called *vegetable albumen*.

d. If, after the separation of these flocks the water be evaporated to dryness, a little sugar and gum will remain behind; while if the gluten, obtained as above described, be boiled in either, a portion of fatty oil will be extracted.

e. If oatmeal or beanmeal be intimately mixed with water, and then allowed to stand till the starch settles to the bottom, the addition of vinegar to the clear liquid will throw down a curd, having much resemblance, in properties and composition, to the curd of milk. As its composition has not as yet been exactly made out, the provisional names of *avenine* and *legumin* are given to the substances thus obtained from the oat and the bean respectively. They serve the same purpose in these seeds as the gluten does in the grain of wheat.

Thus the organic part of plants consists essentially of four classes of substances,—

The cellular substance or woody fibre,
Starch, gum, and sugar,
Gluten, albumen, avenine, legumin,
Oil, or fat.

The first of these is composed of carbon (pure charcoal) and water only, and forms from a fourth to a half by weight of all our cultivated crops in their dry state. The starch group consists also of carbon and water only, though in different proportions.—It forms from one-half to three fourths of the weight of all the kinds of vegetable food on which we usually live. The gluten group is distinguished by containing about fifteen per cent. of nitrogen, with a small proportion of sulphur or phosphorous, or both. In wheat it forms about one-tenth, in oatmeal nearly a fifth, and in beans often as much as a fourth of the whole weight. The fats contain no nitrogen, and, in our cultivated grains, vary from one per cent. to ten per cent. of the whole; in our oily seeds they sometimes amount to one-fourth of their weight.

The animal eats all these substances mixed together, in its vegetable food; it lives upon, and is nourished by them. What purposes do they respectively serve in the animal economy? To understand this, we must first study the compositon of the organic part of the body itseif.

The soft parts of the body, indeed the entire combustible part, consists essentially of three substances, or more correctly, of three groups of analogous substances.

a. The *cellular substance*, which pervades and forms the outline of the whole body.—When the skins of animals are boiled, a jelly is obtained, to which the name of glue is usually given; by chemists is called *gelatine*. When the cartilages of young bones are boiled, they also yield a jelly, differing in some degree from the former, and to which the name of *chondrin* is given. In a solid state, these compounds form the substance of the cells and vessels of the animal body.

b. The *muscular fibre*, which forms the fleshy parts of the body. If a piece of fresh lean mutton or beef be washed for a length of time in a stream of water, the blood will be removed, and a white fibrous substance will remain, which is the pure fibre of the muscle, more or less mixed with fat. The white of the egg, (albumen,) and the pure curd of milk, called by chemists *casien*, are analogous to muscular fibre. They are all analogous, also, to the gluten and legumin of wheat and other grains, and, like them, contain fifteen per cent. of nitrogen, and a little sulphur or phosphorus, or both,

c. The *fat*, which, in an animal in good condition, forms nearly one-third of the weight of the soft parts of the body. It is very analogous — in some cases absolutely identical—with the fatty matter of the vegetable food.

It will be useful now to compare together the constitution of the *organic* parts of the animal and the vegetable respectively.

The plant contains—	The animal contains–
1. Cellular substance, or woody fibre.	1 Cellular substances. Gelatine, chondrin.
2. Gluten, albumen &c	2 Fibrin, albumen &c
3. Fatty matters.	3. Fatty matter.
4. Starch, gum, sugar.	

This comparison shows us, that in both animals and vegetables there is a cellular substance performing analogous functions in each; though of unlike composition—that in both there are substances, gluten and fibrin, which are almost identical; the fats, which are often absolutely identical--and that the only marked difference between them consists in the large quantity of starch, &c., which is present in vegetable food. We can now understand what are the functions which the plant has to perform in reference to animal life, and what purposes are served by the several constituents of the vegetable food which we eat.

Thus as to the duty of the plant, we formerly saw, that one of its purposes was to draw from the soil those mineral, saline, or inorganic substances which are necessary to form the harder parts of the animal body.—This work is done bv the roots. We now see that it has besides to manufacture the materials—the gluten and fat—out of which the soft parts of the animal are to be built up. This is done in the interior of its root, stem, and leaves.

Then as to the purposes of the several constituents of the food—the gluten is carried into the stomach, and thence by the proper vessel to build up almost unchanged the muscular parts of the body. The fat also is merely transferred from the stomach to the parts of the system where its presence is required, or where it is to be laid up in store. The plant is thus the brickmaker and hodman, as it were, while the animal is the bricklayer, who selects the materials brought ready to his hand, dresses them a little, if necessary, with his trowel, and fits them into their places.

Here, again, we see the beautiful adaptation of the plant to the animal—a distinct forethought, in obedience to which the plant prepares beforehand what the future animal is to require. *The stomach of the animal is not fitted to manufacture the materials of its own body out of the raw elements which exist in the atmosphere and the soil.* This labor, therefore, is imposed upon an inferior race of living things; but if this inferior race from any cause, cease to labor, the animal must cease to live. The life of man has been likened to a flower; but the humblest flower has, in reality, a more independent existence than he.

The analogy—the almost absolute identity—above shown to exist between the several parts of the plant and those of the animal, and the way in which the substance of the one is directly converted into the substance of the other; shows how unfounded is that prejudice which many entertain, that a difference exists between animal and vegetable food so essential, that the former is wholly unfit to feed and support the herbivorous races. The starch contained in vegetable food does constitute an important distinction between the two, and one which is connected, as we shall presently see, with very beautiful and important purposes in the animal economy; but there are few animals, indeed, which may not be kept alive upon animal food; still fewer the diet of which might not occasionally be improved by a

judicious admixture of substances of animal origin."

We submit to our friend the wisdom of employing, at any rate in scientific writings, such terms as are more usual on the stump, or among furious logicians; "*lame and ridiculous attempt.*" "*Can folly be so rampant,*" "*Folly can hardly be so rampant,*" "*a doctrine so absurd,*" &c. They sounded the more disagreeable to our ears, as they are found in an article containing more radical mistakes in science, than we remember to have seen in one short article;—a part only of which we have alluded to.

Indiana Far. and Gard.

From Colman's European Agriculture.

Vegetable and Fruit Markets.

England may with reason boast of the fineness of her fruits, especially as, in this matter, she has to contend with the adverse influences of temperature and climate. The country abounds in greenhouses, hothouses, conservatories, and forcing-beds. All the appliances of art, and the highest measure of horticultural skill, are exerted to counteract the unfavorable circumstances under which their cultivation is carried on; to protect plants whose frail nature requires protection; and by every possible means to stimulate and bring to perfection those plants and fruits which seem to demand the same assiduous and parental care as the young of the animal creation.

Few of the country houses belonging to persons whose means allow of such indulgences, are without forcing-beds, greenhouses, and conservatories. Many persons, whose means are restricted, with a high refinement of taste, sacrificing the common pleasures of a frivolous and inferior character, prefer this far higher class of enjoyments and luxuries. In these green-houses and conservatories, the gayest flowers, the most precious exotic plants, and the richest fruits, are cultivated. Many of these conservatories, filled with the choicest varieties of flowering shrubs and plants, are at the side of, and immediately accessible to, the drawing rooms of the houses, furnishing, besides the most beautiful objects of sight, an attractive recreation and delight to the female members of the household, and a refreshing retreat from the dissipations of society, or the harrassing cares of domestic life.

The hothouse or greenhouse productions of England (such as pine-apples and grapes, the natives of climates of a higher temperature) are not surpassed by any which I have ever tasted. The pines, or pine apples, appear to me in size quite equal, and in flavor superior, to any which I have seen brought directly from their own native region, — for the reason, perhaps. that the latter, as is understood, are gathered in a green state, and are left to ripen on the passage, usually crowded in bulk in the hold of a vessel. The grapes are magnificent in size, and delicious in taste. I cannot say that there are no native grapes, and none growing in the open air; but I do not recollect meeting with any. It seems to me to be the humidity of the climate of England, rather than its low temperature, which prevents the ripening of many fruits, and plants, which can grow in an equally high latitude on the western continent. It remains to be seen what will be the result of that remarkable system of drainage, which is here prosecuted in different parts of the country with great spirit and resolution, and which bids fair, as soon as any such great operation can be expected to be effected, to become general, if not universal. Its sanatary effects upon the human, as well as the brute animal, are said to be already in some places determined.

The smaller fruits — such as strawberries, raspberries, gooseberries, and currants—are cultivated with great success. Of a kind of strawberries, called the Alpine Pine, and more properly the Elton Pine, the size is most remarkable, ten of them, as I saw in the market of Dundee, where they are cultivated in perfection, actually weighing a pound avoirdupois. I saw others as large at the horticultural exhibitions, called by a different name; but those were forced in pots in greenhouses.

The gooseberries which I have seen on private tables, and in the markets, are of a very extraordinary size, the purple varieties being preferred. I cannot learn that they are as much subject, as in New England, to a species of mildew, or blush mould, which soon becomes black, and ruins the fruit. Here they are always cultivated upon a single stem, in the form of a small tree, kept trimmed high, and entirely clear of all rubbish or weeds at the bottom. The disease, or blight, to which I refer, is not unknown here, but it is not common; and the fruit is grown in the highest perfection. This disease may come from an unhealthy condition of the soil, or the application of improper manure; but the general and most probable conclusion is, that it is atmospherical. It has appeared to me, that the climate of England, where they have far less sunshine, and much more dampness, than in the Northern United States, does not produce mould in the houses upon plate, furniture, and books, so soon as it does with us, and provisions, both raw and cooked, appear 'to keep sweet'

longer. I do not undertake to give any scientific reason for this; but it seems probable, that it rises from a more even temperature, and the absence of that intense heat which, with us, often follows rain and dampness. The black currant is almost as much cultivated as the red and white, and quite commonly eaten. Raspberries are cultivated; but I have seen none to be compared with the fine kinds common in the United States. Blackberries I have not seen cultivated. I have met with them in the southern parts of England, but ripening so late in the season that they have no richness of flavor.

Of plums there are several kinds: damsons are common; the Orleans plum, the large egg-plum, resembling what I think is called, with us, Bolmar's Washington, are the most esteemed; but they are not abundant, and I cannot say that those which I have seen are equal to those seen in the best markets of the United States, and especially, of all other places, at Albany, in New York, where this fruit is found in a degree of perfection and abundance which I have seen no where else. Cherries are plenty in the market, and in great perfection; the Tartarian, the bigarreau, and the large black-heart and mazard, predominate.

Peaches, nectarines, and apricots, are seen occasionally at private tables; and in great perfection, though in very small quantities, at the great market, and at some of the splendid fruit shops in London. Peaches are grown in favorable situations on open walls, but in general under glass, and early in the season are forced by an artificial climate. They are brought to great perfection in appearance, and command, when first they appear in the market, two guineas, or about ten dollars and a half per dozen, as pine-apples cultivated here, at some times of the year, bring a guinea or thirty shillings stirling apiece,—that is, from five and a quarter to seven and a half dollars each!

The luxury in which the higher and wealthier classes in England live is, probably, unequalled in any country, and is, perhaps, not surpassed in the history of Roman grandeur or Oriental magnificence. They expend, whether willing or unwilling, with a profusion which it is difficult for those of us brought up in the school of restricted and humble means to understand; and in respect to true liberality, there is probably the same diversity of disposition and character to be found as among those, who, instead of dispensing guineas, are obliged to keep their reckoning in pence and farthings. I do not forget that excessive wealth, as well as extreme penury, have each their peculiar moral dangers. But the liberal expenditures of the rich, even upon many articles of pure luxury, are a great public benefit. Certainly, no immoral indulgence is ever to be justified or excused. I do not say that it is the best appropriation of the money; that point I shall not now discuss; but certainly the person, who gives his two guineas for his dozen of peaches, encourages industry, rewards horticultural skill, stimulates improvement, excites a wholesome competition, and would, surely, be doing much worse with them if he kept them parsimoniously and uselessly hoarded in his coffers.

The apples, in England, are in general inferior, excepting for cooking purposes. The superiority of our Newton pippin is every where admitted and proclaimed. Of other of our fine apples,— such as the Golden Russet, the Baldwin, the Blue Pearmain, and many others,—I have seen none, though it is not to be confidently inferred, from that circumstance, that none are imported. Large quantities of apples are sent from the United States to England, and sold to advantage.

The English have not yet learned the value of apples as food for stock. Many of the farmers in the United States, after repeated trials, both for fatting swine, for neat stock, and even for milch cows, rate them in value in the proportion of three bushels of apples as equal to two of potatoes. There are many parts of England, where apples might be cultivated to advantage for this very purpose, where the finest kinds might not ripen, but where the inferior sorts would be likely to yield abundantly. There are many hedgerows where they would grow to advantage; and they certainly might be substituted, without loss to beauty, and with a clear gain to utility, for many thorn-trees, ash-trees, and others, which now stand in the parks and open grounds of the country.

Of pears I have seen several good kinds, but none comparable to the Seckle or the Bartlett. This, however, may be mere matter of personal taste. Melons are grown only under glass, and by artificial heat. The English walnut grows abundantly, and is used both dried and for pickling; and chestnuts are plentiful. The common shagbark, or hickory nut, I have not met with, though it is sometimes imported. Filberts are cultivated in the county of Kent for the market, on a gravelly soil, where they are raised on small bushes, or trees with one stem, and suffered to grow not more than five or six feet high. They grow together on the same ground with hops, and pear or apple trees; and the proportionate number of each to an acre, is stated at 800 hills of hops, 200 filberts, and forty apple or pear trees. "The hops are said to last twelve years, the fil-

berts thirty, and after that, the apples and pears require the whole ground."

The vegetables grown for table use are many of them in appearance of the finest kinds. The potatoes grown in England are in general of a superior quality, though I think them inferior to the potatoes grown in Nova Scotia. In Nova Scotia, they have not only the advantage of a climate as cool as that of England, but likewise of a virgin soil, which circumstances seem particularly favorable both to the growth and the quality of the potato; and nothing of the kind, which I have ever eaten, is equal to a fine Nova Scotia potato. In our old soils, surcharged with manure, the potatoes are always inferior in quality. In Ireland, deemed of all other countries the adopted home of the potato, I was seldom able to find one that was even eatable. This arose, however, not from the quality of the root, but from the mode of cooking--the Irish always desiring, to use their own expression, "to have a stone in the middle;" so that the aim of the cook was only to boil, or rather scald, the outside of the potato, and leave the inside as hard as when it went into the pot. The advantage of this, as gravely stated to me, was that they were longer in digestion, and therefore gave more support. This may be sound philosophy in Ireland, where the stomachs of the poor find equal difficulty in getting, as they do in keeping what they get. It would be inhuman to treat the extreme destitution of these poor wretches with any levity; but I found this mode of cooking prevailing also at the tables of the rich and noble; and after seeing such an abuse of one of the most useful and nutritious plants which come out of the earth, I was half inclined to advise them to try a few granite pebbles of a size to pass through a McAdam ring, and see whether they would not serve the digestive organs still longer. It was a curiosity to me in London, likewise, to see them selling in the market, by the quart, the small, not half-grown, not quarter-grown potatoes, not even so large as cherries, and many not larger than peas; and these were bought up as luxuries. I should quite as soon think of sitting down to a dish of boiled bullets, or duck-shot; and I should suppose with almost equal chance of nourishment. If it were such potatoes only, at which Cobbett launched his anathemas, one would not be surprised at his indignation.

It is a very great point to bring the earliest potatoes into the market, and I have seen them offered in Covent Garden Market as early as March. Indeed, by a method which I will presently explain, there would be little difficulty in having them at the coming in of the new year. In Penzance, in Cornwall, at the very south of England, where there are some parcels of most excellent soil, and great skill in its cultivation, where the winter is open and the climate very mild, and where, for the purpose, land is let at twenty pounds, or one hundred dollars per acre, large supplies of early vegetables, potatoes especially, are raised for the London markets. In this case, they are sprouted under and upon warm horse-dung, or under glass; and are planted as early as February, and carefully attended, pains being taken to select the earliest kinds. The mode of sprouting them in this case is similar to that adopted by the excellent and spirited cultivators at West Cambridge, near Boston, where the sets are started, under a bed of fresh horse-dung, on the sunny and protected side of a hill.

Potatoes are sold in market by weight, fourteen pounds constituting a stone weight; in Ireland, a stone of potatoes weighs sixteen pounds. In Ireland the crop is measured by barrels, and an acre of ground is stated to have yielded so many barrels. Then the Irish acre differs very much from the English statute acre, being, I think, the former compared with the latter, as 196 to 121, or nearly 5 to 3. A barrel of potatoes in Ireland may contain five, or only three bushels, and the weight of the bushel of potatoes is not determined, though customarily estimated at fifty-six pounds. Few beans are cultivated for the table, excepting the Windsor bean, which is a coarse vegetable; and a small bean, used like our string beans, and called the French bean. Our Lima bean, and other rich pole beans, I have not met with. Peas are abundant in market, are brought in early, and continued late, and are of several different kinds, the Charlton pea (so called from the town where the earliest peas are grown) being preferred as an early pea. In order to bring peas to early maturity, or rather to a state for sale, a ridge of land or high furrow is thrown up in a direction from east to west, and the peas are planted on the south side of this ridge at the bottom of the furrow. In this way the young plants are protected from the cold winds on one side, and enjoy the warm rays of the sun reflected on the other. This is a simple and excellent arrangement, especially in a climate where, we may say, with some truth, that a handful of sunshine is worth much more than its weight in gold.

Carrots and turnips are of the finest quality, and always sold in bunches. The orange carrot seems to be preferred for the table; the Belgian white for stock. Onions are generally eaten small. They are planted early in the autumn, and gathered in

July and August. Spinach, endive, cresses, lettuces, are always in the market, either forced or grown in the open ground. Blood-beets I have scarcely seen, either in the markets or on table, unless pickled in vinegar. The fine egg-plant, so common in the New York and Philadelphia markets, does not appear to be known here. That most luscious vegetable, the sweet potato, of course cannot be grown. I have once seen some for sale at a shop window, and, thinking I would indulge in a reminiscence of home, I found, on weighing, at the price asked, a single potato would be 1*s.* 6*d.* or 37½ cents. Of course it ended in inquiry; and I was obliged to be satisfied with other forms of remembrance. Of squashes, they can scarcely be said to have any. They have a very inferior kind, which they dignify with the name of vegetable marrow; but of our fine crook neck and Canada squashes, or our autumnal vegetable marrow, nothing is seen, and their excellence cannot be appreciated without being tasted. Of our delicious green Indian corn, of course they have none. Cucumbers are always in the market. In the early part of the season, they are forced; in the latter part of the season they grow out of doors. Every possible pains is taken to protect their plant, as may be seen by the hundreds of hand-glass frames and bass mattings which are to be found in every extensive vegetable garden.

There are four species of plants, or edible vegetables, in which, it must be admitted, the English markets cannot be surpassed, at least in the size of their products. They are asparagus, rhubarb, cauliflowers, and cabbages. The asparagus and rhubarb are gigantic, the rhubarb more especially, which is often brought to market three and four feet in length, and of the size of a woman's arm—some women of course excepted. The early asparagus is forced under glass; the later is forced in the open ground by all the appliances of manure. The quantity of rhubarb consumed is enormous, for it comes not in baskets, but piled up in four-horse wagons in bulk. The asparagus shows the want of sun, and appears as if grown in a cellar, the mere head of the early kinds being the only part eatable. I think Cobbett somewhere says, that "the English do not know how to eat asparagus, for they always begin at the white end." I have not myself observed among them any remarkable deficiency of gastronomical science; but certainly, in this case, they have not far to go to find a white end. Sea-kale or Scotch kale is very much eaten early in the season. It is blanched under cover, and is a delicious vegetable, that is, for those whose taste agrees with mine. The Jerusalem artichoke seems a favorite vegetable with most persons.

One of the principal vegetables found in the market, and this at all seasons, is cauliflower; and it is certainly grown here in perfection. They are sown, for the next year's use, some time in August, in hot-beds, and are transplanted into the open ground in February. They, of course, before being transplanted, are cultivated under glass, and for some time after they require protection. They are a frequent, and almost an invariable dish at well-furnished tables. Cabbages likewise are brought into the market with a profusion absolutely astounding, which itself shows how much they are eaten. One would be supposed to consider them as the favorite vegetable of the English. The early ones of course are forced in hot-beds and transplanted, and a constant succession is kept up. I have sometimes seen in the market, at one time, very early in the morning, many large four-horse wagon loads of cabbages, lettuces, and rhubarb, all distinct, and piled up in the most beautiful manner, with a precision which is admirable; and when I have had the curiosity to inquire how many heads of cabbage were on a single load, the answer has been, two hundred and twenty-five dozen.

The celery brought into market is, like the rhubarb, gigantic. The solid-stalked is greatly preferred. It is finely blanched. It is not so agreeable for eating as a smaller sized plant, but it shows the perfection of cultivation. The celery, like the rhubarb and the lettuce, is brought into market in the neatest manner. Nothing is tumbled into the carts, or thrown out upon the ground topsy-turvy, or indiscriminately. Even the heads of lettuce are every one of them tied with a string of bass matting; and when presented in the stalls, the various articles are arranged with great care—I may add, with taste, and a view to effect.

In looking down from the high bridge in Edinburgh, upon the vegetable and fruit market below, and observing the arrangement of the different articles in the stalls, the intermingling of the white cauliflowers with the purple cabbages, the orange carrots, the yellow turneps, and the red beets, and other articles of various hues, like the colors in a Turkey carpet, the effect is really picturesque and beautiful. I have gazed at them repeatedly with much pleasure. The same remarks apply to the arrangements in the London markets. I know some will say, What is the use of all this? I have just given the answer. It gave me, and it gives others, pleasure. That is reason enough, if there were no other. I think in this respect we have a good deal to learn.

There is a natural concord or harmony among all the senses, and the stomach seems better satisfied when that which enters it gives pleasure to the eye. Suppose that our fine rare-ripe peaches were a dingy black, instead of presenting, as they now do, a sample of that most lovely and perfect intermingling of colors to be found in nature—such as the soft blending of red and white in the leaf of the damask rose, or, in a still more radiant form, on the cheek of virgin beauty and innocence. I think in such case we should eat them with a far inferior relish.

Grapes of the very finest description are produced in England, but wholly, as I have already remarked, by artificial culture.—This, of course, places them beyond the reach of the great mass of the people; but they are always found on the tables of the wealthy and noble. In the stalls of Covent Garden Market, they present themselves in such a rich and luscious display, as to tempt a visiter to break at least one of the commandments; and, if it were not for the plate glass, which protects them, it might be, another also. This interposition is certainly humane, as a violation of the latter commandment referred to, under the lynx-eyed system of espionage necessarily practiced here, might place one in an awkward position. The violation of the commandment of not coveting what we cannot possess, must be settled in another court. I can only hope that human weakness will be considered; for, in passing from one part of London to the other, and among the shops crowded with the splendid productions of nature, refined and embellished by the highest art and skill, with all the means of sensual gratification, with everything to minister to luxurious indulgence, to feed the animal appetite, and the often more hungry intellect, and to delight and gratify the fastidious and cultivated taste, it requires a most rigid self-control, so far as our desires are concerned, to keep the peace, from day to day, with one's own conscience.

I should add more on the cultivation of this delicious fruit, but I know it is very well understood in the United States, where the best grapes grown are not, within my knowledge, surpassed for size, abundance, and flavor. So, at least, I thought them before I left home; but in my long exile, in order to keep down a dreadful homesickness that sometimes makes sleep almost as much a stranger to my pillow as though it was stuffed with McAdam's angular stones, I try to think, like the fox in the fable, that American grapes are sour. But I cannot do it. Affections, which no time nor distance can quench or abate, defy every such idle effort; and memory returns, with all its sensibilities quickened, and all its delicious colorings heightened and embellished, to triumph over the impotence of the resolution.

Pines, or pine-apples, are, as I have remarked, cultivated to a large extent, and with the greatest success, in the hot-houses of the affluent, where fire heat is employed; but in Cambridgeshire I found them cultivated, with great success, in common hotbeds. The beds were formed in the usual way; and in order to keep up the heat, or renew it when it declined, additional supplies of fresh stable manure were applied, from time to time, to the sides of the bed. The plants were healthy, and fruited well; and so far as the quality of the fruit goes to approve the mode of growing, I will say, on my own knowledge, better need not be desired.

I have one remark to make in regard to English vegetables and fruits, that will not, I hope, be deemed ill-humored,—which is, that, though cultivated with extraordinary skill, with the exceptions I have above named, they are tasteless, and without that fine relish which one would like to find. I think it is Voltaire who says "that the only ripe fruit to be found in England is a baked apple." I cannot accede to a censure so sweeping; but it is plain that their fruits and vegetables want ripeness and flavor. This may arise partly from a deficiency of heat from the sun, and partly from the excessive forcing of their vegetables, in the vicinity of large markets, by unlimited quantities of manure. I know how difficult it must be to make an Englishman believe this statement; for under the national peculiarity of a large endowment of self-esteem, which their Anglo-Saxon descendants over the water seem to have inherited, (and sometimes, I think, with a considerable enlargement of the organ, from long cultivation,) a genuine Englishman thinks that nothing out of his own country can possibly be so good as what is to be found in it. Now, in intellectual fruits, and the products of art and science, I will not dispute their pre-eminence—only hoping that, while they are reposing upon their laurels, a young and ambitious rival, in a fair and generous competition, may be up with them as soon as possible, and distance them, if he can. But climates and sunshine are not under human control; and the fact which I have stated is in my mind established, and not the result of mere prejudice, of which, on any subject, if I were conscious of it, I should be ashamed.

American Apples.

Robert L. Pell, Esq., of Pellham, Westchester county, New York, has an orchard of twenty thousand apple trees, all bearing Newtown Pippins. By trimming and the ap-

plication of the best manures, he has brought the fruit to unusual size and excellence. The apples are picked and packed in barrels without being rolled or jolted in carts, and so arrive in the very best order for shipment. Last year they were sold in London at twenty-one dollars a barrel, and the merchant to whom they were consigned, wrote that the nobility and other people of great wealth had actually bought them by retail at a guinea a dozen; which is some forty-five cents an apple. Mr. Pell has from three to four thousand barrels of the apple this year, which are sold as fast as they arrive in market, at six dollars a barrel, and are all shipped to England. It is quite a business for one of our commission merchants to dispose of the produce of this noble plantation.

The American apple, take it all in all, is the most valuable fruit which grows on the earth. We undervalue them because they are so abundant; and even many American farmers will not take the trouble to live like an English lord, though the trouble would be very little.—*N. Y. Jour. of Com.*

Boston Fruits, etc.

Boston, Mass., Sept. 20, 1845.

Arriving here I called first on Mr. Cole, the editer of the Boston Cultivator, who went with me to the Horticultural Hall, where the annual exhibition was. On introduction to the Recording Secretary, Mr. Wight, I was presented with a free ticket to the Room. The Hall is certainly a most beautiful room for the purpose designed, and on entering I was exceedingly gratified at the large display of fruits the room presented. Wide tables were placed next the wall completely around the room, and also through the centre. On these were placed the dishes of fruits, as closely as they could possibly be made to stand. The "hobby" of Boston people, however, is pears, and I saw more of this variety of fruit than of any other. Mr. Cole accompanied me around the room, and to him I am indebted for the acquaintance of many of the first fruit cultivators here.

Correctness of nomenclature is unfortunately not always to be met even here, as in making the detour of the room I found several incorrectly marked. An instance only I will record: I had been passing along viewing among other apples the Gravenstein and Ribstone Pippin, when my eye was attracted to the label "Gravenstein," on a plate in one collection, the fruit of which in every other collection was named Ribstone Pippin. So plain and palpable an error I should have thought would have been immediately corrected, but it was not, and so passing how could one unacquainted with fruits know which was the true? In the collection exhibited by Mr. Manning, there was an apple under the name of Winesap,' that I was surprised to find it in a collection where correctness of names was general.

The Yellow Belle-fleur, is here one of their best apples, and on the mountains of Maine I am told it surpasses all others in flavor. The Porter apple is one of the most beautiful of apples, large and fair, as unlike the fruit of the tree received by yourself from Kenrick as the Porter, as is the Campfield from the Waxen. The Ribstone Pippin is a fair fruit, but there are others more worthy of cultivation. "Jewett's fine Red," says Mr. Cole, is *first* rate, in quality, but a little disposed to be knotty. I have not met it.

A new fruit, (so thought here) exhibited under the name of "Bars," is one of beauty, and from Mr. Cole's description is of excellent quality. It ripens the last of August, but will keep along until the middle of September. The Baldwin apple of which so much has been said, I am confident, from what I can learn, is of no higher excellence here than with us, and its reputation is made more from the fact of the tree bearing profusely every other year, the fruit being always fair, of a good marketeble size, of a handsome red, and commanding a good price always, in market. Judges of fruits tell me it does not rank in flavor and quality with the Nonsuch.

The President apple I here saw, but could not get a taste. It is large, flat, yellowish with dark blotches, altogether a handsome apple, and is ranked as among the first.

The Benoni, although first in quality, is a little disposed to blast, around the vicinity of Boston. The Minister apple, specimens of which I send you, is really to my view *the* apple. It bears profusely, is large, beautiful and of superior quality. The Fall Harvey is large in size but rather coarse, not first rate. The Dyer apple as here shown does not equal the Porter. A new apple exhibited by Mr. Cole, called the August Sweeting, an account of which is published in the Boston Cultivator, is extremely like the Sweet Bough in appearance, but said to be superior. The Orange Sweet, of D. Thomas, and that of the same name here are not alike. Which is true, or whether both are synonymes of some other fruits I am unable to determine.

Among the Pears innumerable almost as the varieties may be said to be, yet there are but about thirty or forty out of some three hundred that are really worth having except in a large collection where numbers and variety are the principal object. The Broca's Bergamotte is indifferent in appearance, yet in eating is excellent. The Bartlett is grown here immense in size and its

quality no one will doubt. Specimens of which I measured were many of them 4½ in. long and 3 in diameter. The Belle Lucrative or Fondante D'Autome, may perhaps be termed the very best of all others. The Muscadine, Beurre Bosc, Washington, Long Green, Golden Beurre of Bilboa, Seckel, Flemish Beauty, Vicar of Winkfield, Cushing, Buffum and St. Ghislain may all be ranked high. The Bishop's Thumb is said not to be as good here as I describe its qualities to have proved with us. I have not met with a specimen here as yet. There are several other Pears, as the Urbaniste, Louise Bon de Jersey, &c. &c., in all say about forty varieties, that will range as these above named, so I would not that you should consider this list as embracing by any means *all* the best varieties. The Andrews I think however will never bear the character now given it, as a disposition to decay at the core before being fully ripe is somewhat its characteristic.

Bleecker's Meadow, although many nurserymen recommend it, certainly has nothing to induce such recommendation, except that the tree is a thrifty grower and bears profusely. The quality is *not* third rate.—Some Duchess D'Augoulemes that I measured were same in size as the Bartlet above spoken of.

Among Plums here shown there were none that equalled some Washingtons and Coe's Golden Drop that I saw in Utica; Roe's Autumn Gage was among the best. The Violet Perdigron was shown as the Orleans, and upon my enquiring if this was not an error, I was told by several *judges* that it certainly was. Cruger's Scarlet is a beautiful looking plum and bears profusely, but it is void of flavor, not rich. It would however be a profitable market fruit from the curculio not touching it.

I must go back again, as my memory serves in writing, to Pears. The Beurre Diel I saw here grown immensely large, and stated to have been so done on the apple stock. The Seckel it is well known increases its size by being put upon the apple stock, but that the Beurre Diel would do so was news to me. I saw a plate of Pears marked the "Beurre Spence" but they presented an indifferent appearance, so much so as to make me think Mr. Downing correct in saying we had never yet received it, or else that the taste of Van Mons, when he pronounced it the best of all pears, must have been grossly imperfect.

In looking through the pears at Utica and also here I have been impressed with the query whether the Doyenne Gris was not passing with some under the name of Seckel. Certainly I have seen plates labelled Seckel that do not present the correct appearance of that variety, but it may be that locality in ripening changes them so much as to have thus induced this thought.

Nectarines are here in all their beauty, but from being grown under glass no correct impression of a variety for open culture can be arrived at. A dish of the Bloomfield variety were as large as Morris' Red Rareripe peaches, and of a rich golden yellow, with a deep but brilliant red blush on one side, altogether the most beautiful dish of fruit I have ever seen.

Peaches were few and I think far inferior to ours in flavor. Crawford's Early was but now ripe, and although it is a good peach yet neither this, the Jacques Rareripe nor any other of the yellow fleshed peaches can compare, according to my taste, with the Grosse Mignone and many other white fleshed varieties. A careful examination convinces me more fully than ever that the variety heretofore cultivated with us under the name of Cooledge's Favorite is untrue.

Grapes grown under glass were exhibited in great variety, some bunches of Black Hamburgh measuring 15 by 12 inches. Some White Syrian 12 by 9 inches, &c. &c. The Black Prince Grape of which you requested my getting is not a hardy grape although it may do with strawing up. In size and beauty of fruit it does not compare with the Hamburgh. Isabellas were not ripe here, although some few were shown.—*Elliot, of W. R. Magazine.*

Putnam Russet Apple again.

We can well conceive what were the chagrins and disappointments of the Emperor Charles V. when he attempted to make his scores of watches keep uniform time. It is now, near forty years since we began our efforts to establish a correct nomenclature of the fruits cultitivated in our immediate vicinity, and at this late day we find them no more successful than were the efforts of the German Emperor.

No one point we had considered better settled, than that the Putnam Russet was a seedling, originated near Marietta. Mr. Downing describes it as such on our authority, and it has been so considered by most fruit growers in Northern Ohio.

About twenty years since a respectable clergyman, who was then residing in the Muskingum Valley, not far from Marietta, visited Trumbull county. He imformed the late Mr. Swan, the then Postmaster of Boardman, and myself that such an apple had been produced near Marietta and was there cultivated under the above name. On his return he forwarded by mail three small scions to Mr. S. and from then have origina-

ted most or all of the trees of this variety that are now growing in northern Ohio.—The name of this clergyman I do not recollect, as nothing has occured in this long interval of time to fix it in my mind.

We have cultivated this fruit since that time, under the impression that it was an Ohio seedling, and have always spoken of it as such, in conversation with gentlemen from that section of the State. No one has ever intimated to me that there was a doubt upon that point; and I was surprised recently to discover the name placed as a synoniml to the Roxbury or Boston Russet in some Eastern catalogues.

Since the publication of the last No. of the W. R. Magazine, my friend Dr. Barker, of McConnelsville, has furnished me with so many evidences on this subject that I have no doubt that the scions were originally carried from the eastern States to Marietta, and I suppose the fruit is no other than the Roxbury Russet, modified by soil and climate.

This conclusion however throws us into another predicament. What is the apple that we have cultivated twenty years, and have seen so often exposed for sale in market and exhibited at our horticultural fairs, under the name of Roxbury Russet! Neither the habits of the tree, nor the properties of the fruit, agree with those of the Putnam Russett. The Shippen's Russet that we cultivate seems to differ from both, but it is possible is only a modified variety.—*J. P. Kirtland.—W. R. Mag.*

Mustard Crop in Ohio--Prices offered for the Seed in Philadelphia.

We have made inquiries respecting the success of our friends who attempted the cultivation of mustard seed in this State the present season, and we learn that although some failed entirely, owing to the frosts and drought, the majority have succeeded remarkably well considering the unfavorableness of the season, and their want of experience in the business. The following are the principal lots:

Mr. Parmelee, Duncan's Falls,	27 acres.
" Buckingham, Putnam, - -	9 "
" Ely, Chillicothe, - - - -	15 "
" Myers, Canton, - - - -	7 "
Three or four smaller lots, say -	12 "

Making in all seventy acres; and there may be other lots in the State, of which we have not heard. Mr. Parmelee's crop is about as good as last year, say fourteen bushels per acre. Mr. Buckingham's is nearly as good. Mr. Ely's, and the smaller lots, were somewhat injured; we have not learned the amount of the yield; probably not over seven to ten bushels per acre. This will give, for the whole amount 700 bushels.

Nor for the markets. We have just received a letter from Messrs. C. J. Fell & Co., of Philadelphia, in answer to one from us, in which they generously say, that although the market price for seed is not well established, (and it may range lower than last year,) yet, inasmuch as they may have been instrumental in inducing some Ohio farmers to engage in its cultivation with the expectation that the same price would be given this year that was paid Mr. Parmelee last year, they now offer to pay that price, (eight cents per pound in cash,) for all Ohio seed that may be sent them *of as good quality* (as heavy and clean) *as was Mr. Parmelee's last year;* to arrive at Philadelphia not later than the first of November. For seed of a less perfect quality they will pay a proportionate price; and to avoid any dissatisfaction, they offer to let the weigh-master send us samples of the lots that arrive, and have us compare them with seed of Mr. Parmelee's last year's crop, and say what deduction ought to be made in the price.

The seed should be packed in good strong flour barrels and shipped by way of Pittsburgh. The cost of transportion from Pittsburgh to Philadelphia is sixty cents per 100 weight.

The Messrs. Fell also inform us that they have shipped for us a box of small canisters of mustard manufactured from Ohio seed, which we may distribute to persons engaged in its cultivation, and such others as we see fit. We will do so, with pleasure.

Ohio Cultivator.

Lectures on the Hebrews.

Professor Wines has delivered, at Clinton Hall, several of a course of lectures on the civil government of the Hebrews. The first was a review of the leading governments of antiquity, showing their deficiencies in the knowledge and practice of the free principles of civil liberty. The second was on war laws and slavery of ancient times—character of Moses as a law-giver, historian and chief magistrate. The third was devoted to the fundamental and political maxims on which Moses founded his system of civil government.

Moses was a wise law-giver. A leading feature in the institutions of the Hebrews was political equality. The possession of landed property is the natural foundation for this. Accordingly the country, when taken possession of, was divided into 600,000 unalienable divisions. Usury was prohibited, as inconsistent with a purely agricultural population. There was provision made every Sabbatical year for the liquidation of

debts; and at every jubilee of fifty years, lands were to be restored to original owners. These and other provisions were made to guard against unbounded wealth and aristocratic influence. The cultivation of the soil was emphatically the basis of the political rights and the great prosperity of the nation. The land was one of rivers, brooks and fountains—of honey, oil, grapes, and of cereal grains. Although war was the ruling passion of the nations of the earth, yet there was no regular standing army among the Hebrews, as long as they depended on the products of the soil alone for their supplies. Extended dominions and accumulated wealth increased foreign alliances and departure from primitive institutions.

The institutions of the Jews were designed for an agricultural population—admirably calculated to promote domestic economy and multiply rural wealth—to draw off the attention of the people from the deceptive gains of commerce, compared with those of agriculture. On this subject, said the Professor, mankind to this day have very erroneous opinions. To illustrate this, he made some very important statements in relation to our own country and foreign lands. The whole foreign commerce of great Britain, concerning which so much has been said the world over, is less in amount than her *grass crop* alone. The grass crop of the United States is valued at $150,000,000 yearly, which is *twice* the amount of *all our foreign exports*. The corn crop of Kentucky and Tennessee is equal to the cotton crops of all the cotton-growing States. Very erroneous views prevail in this country on the comparative value of this southern product. It is magnified into as much importance to the whole country as *cotton bags* were to the defence of New Orleans. The agricultural products of New York exceed, by many millions, all the foreign exports, including cotton.

The potato is the only leading crop of the present day whose history is accurately known. All the others are traced back to ages in which there is no light of history.

The world has ever been indebted to agriculture for the purity and safety of political institutions. When Rome had departed from the simplicity of her rural institutions, she had, in the days of darkness and danger, to resort to a ploughman in the field to preside over the country, and restore it to peace and safety. It was a farmer that led the American army to victory and to the achievment of independence for the western world.

N. Y. Farm and Mechanic.

Northern and Southern Flour.

The question is frequently asked why it is that *southern* flour generally brings higher prices in the great markets than northern. In a late number of the Tuscaloosa *Monitor*, we find the following, relating to the same subject:

Having heard it said that Alabama flour yielded more bread than northern or western, I requested Messrs. L. & H., bakers, of this city, to give particular attention to the fact. Early in June last, being supplied with a good article of Cincinnati flour, also with flour from new wheat, manufactured at Col. McAdory's mill in Jefferson county, Alabama. They reported that having done so, they found the grain about twenty per cent. in favor of McAdory's. There was then tried in my family the following experiment: Two loaves were made, each containing two and a quarter pounds of flour, the one of Alabama, the other of Cincinnati. They were baked at the same time, and when cool were carefully weighed. The result was—

Ala. 2¼ lbs.,	weight of loaf 3¼	—gain 1¼	or 55 per. cent.
Cin. 2¼ lbs.,	" " " 3	" ¼	or 33 "
Gain of Alabama over Cincinnati,		22	"

This appears extraordinary; but as my experiment only verifies the statement of L. & H. I feel confidence in its correctness, and should infer that our hot and dry climate produces a harder wheat than at the north, containing a larger proportion of gluten; hence richer, and more valuable to the baker."

There is nothing very extraordinary in all this. The reason why flour manufactured from southern wheat yields a greater quantity of bread than that made from northern is, because it is drier, or as it is termed by the bakers, *more thirsty*, and consequently absorbs a greater quantity of water in the process of mixing. The reason why bakers in New Orleans are willing to pay a higher price for St. Louis flour than for Cincinnati, and the bakers of New York and Boston higher prices for Maryland and Virginia flour than for Genesee and Ohio, is not so much on account of the difference in quality but because they can make a greater quantity of bread from one than they can from the other.

We question whether any mills in the world are capable of manufacturing a better quality of flour than those in the western part of New York; but owing to the peculiarities of climate the wheat grown in their neighborhood does not yield so dry an article of flour as that grown further south.

Cin. Atlas.

The following toast was given at a late dinner of the Hasty Pudding Club in Boston:

Our corn fed boys and corn fed girls—the right material to form a corn-fed-eration.

Root Crops.

For some years we have been urging upon the attention of our readers an improved mode of raising roots, as well as a good system of raising sage, saffron, and other herbs and plants in general, which require much labor in weeding. We discovered the utility of this plan by experiment, though it has doubtless been practiced by a few for hundreds of years. Some cultivators who have had fifty years experience, laugh at the idea of learning any thing from a paper, though it is evident that in raising beets, carrots, parsnips, &c., they spend twice as much labor as would be requisite on the improved plan.

In the fall prepare the ground, by removing stones and other obstructions, if any there be, then apply the manure and plow it in deeply. In the spring as soon as the weeds begin to vegetate, go over the land with a cultivator, harrow or plow, to destroy the weeds and bring up a fresh portion of earth, that another lot of weeds may start. Pursue this plan till the time of sowing. With the harrow or cultivator the soil may be stirred at little expense, but it may be well to plow once in the time to bring up the deep soil.

When the season has arrived for sowing, have the seed prepared by pouring hot water upon it, and allowing it to stand in a warm place forty-eight hours. Then drain off the water and keep the seed moist and warm a few days, or until the chits begin to start, then add plaster or ashes, to dry the seed outwardly, then sow, and the plants will start before weeds, and more than half of the labor will be saved in hoeing; and the extra crop will pay all extra expense in harrowing, ploughing, &c. from the pulverization of the soil.—*Selected.*

The Peach Trade.

To give some idea of the amount of the peach trade, we mention the following fact. Maj. Raybold & Sons, of Delaware city, (Del.) sold the enormous amount of 63235 Baskets up to the 29th of August. They have now chartered the steamboat "Mutual Safety," of New York, burden 700 tons, to convey their peaches by sea direct for New York, thus avoiding the labor and loss of transhipment and reloading, when sent by railroad or canal. This steamboat left the wharf at Delaware city on the evening of the first of September, at nine o'clock, with 3,582 baskets of peaches on board, expecting to make the passage in sixteen hours.

The most superb peach orchard probably in the country, if not in the world, is that belonging to Messrs. Isaac Rare and Jacob Ridgeway, of Philadelphia. It is located about forty-five miles below that city, on the river, at Delaware city, and comprises upwards of two hundred acres. In the year 1839, were gathered from this orchard, eighteen thousand bushels of mature fruit, and yet only about one hundred and seventy acres were in bearing, and twenty-five acres of these had not yet reached maturity.

N. Y. Farm. and Mechanic.

Old Massachusetts.—In looking over a schedule of our State expenses for the last ten years, we find that Massachusetts has paid, in that time, nearly *three millions* of dollars for common schools, bounties, asylums, and other matters not coming under the head of ordinary State expenses, to say nothing of what she has subscribed in aid of the Western Railroad. This she has done with a state tax during the whole time of only $150,000. Can another State be pointed out which has done so much for the public interest, at so little public cost!

The editor of the Philadelphia Gazette crowds a whole chapter of horticultural wisdom into the following few lines:

"We said yesterday that every body ought to have a grape vine, and, of course, every body will try to have one after this. We now add another duty—every body should have a peach tree that can find ground enough in his occupancy to sustain one."

Wounds on Cattle.—The most aggravated wounds of domestic animals are easily cured with a portion of yolk of eggs mixed in the spirits of turpentine: the part affected must be bathed several times with the mixture, when a perfect cure will be effected in forty-eight hours.

So says an exchange paper. Try it.

A new feature in Cattle Shows.—At the recent agricultural fair in Burlington, Vermont, Mr. L. Chase presented for premium three pretty female children, two and a half years old, born at a birth. The committee on household manufactures awarded him fourteen dollars, which was voluntarily contributed by the old bachelors present, who said they considered him a legitimate object of charity.

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